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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,316	07/02/2002	Toshiharu Furukawa	BUR920010222	8270

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EXAMINER

VU, HUNG K

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,316

Applicant(s)

FURUKAWA ET AL.

Examiner

Hung K. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,21-24 and 34-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,21-24 and 34-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 37 is objected to because of the following informalities: Claim 37 should be cancelled because it contains the limitation (the contact has a portion that extends on two opposing vertical sides of the spacer” which is already recited in the independent claim 34. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 21, 22 and 34-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Wei (PN 5,369,303).

Wei discloses, as shown in Figure 9, a semiconductor comprising,

a contact (48) having a portion that extends on two opposing vertical sides of at east one vertical structure (40) adjacent a gate electrode (16), and the contact contacts only a diffusion (42) adjacent the gate electrode.

With regard to claim 4, Wei discloses the contact includes an upper portion that is larger than a lower, contact portion [see Figure 9].

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With regard to claim 21, Wei discloses the at least one vertical structure is a spacer.

With regard to claim 22, Wei discloses the contact contacts a substrate adjacent the spacer.

With regard to claim 34, Wei discloses, as shown in Figure 9, a semiconductor comprising:

- a gate electrode (16);

- a spacer (40) adjacent the gate electrode;

- a contact (48) having a portion that extends on two opposing vertical sides of the spacer, the contact contacts a diffusion (42) adjacent the gate electrode;

- a masking layer (32) insulating the gate electrode from the contact.

With regard to claim 35, Wei discloses the masking layer caps at least a portion of the gate electrode.

With regard to claim 36, Wei discloses the contact has an upper portion that is larger than a lower portion that contacts the diffusion.

With regard to claim 37, Wei discloses the contact (48) having the portion that extends on two opposing vertical sides of the spacer

3. Claims 1, 4, 21, 23-24 and 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (PN 5,879,997).

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Lee et al. discloses, as shown in Figure 6, a semiconductor comprising,

a contact (19) having a portion that extends on two opposing vertical sides of at least one vertical structure (13) adjacent a gate electrode (9), and the contact contacts only the gate electrode.

With regard to claim 4, Lee discloses the contact includes an upper portion that is larger than a lower, contact portion [see Figure 6].

With regard to claim 21, Lee et al. discloses the at least one vertical structure is a spacer.

With regard to claim 23, Lee et al. discloses the at least one vertical structure includes two vertical structures, one to each side of the gate electrode.

With regard to claim 24, Lee et al. discloses each vertical structure is a spacer.

With regard to claim 38, Lee et al. discloses, as shown in Figure 6, a semiconductor comprising,

a gate electrode (9);

a spacer (18) adjacent the gate electrode;

a contact (19) having a portion that extends on two opposing vertical sides of the spacer, the contact contacts the gate electrode;

a masking layer (17) insulating a diffusion from the contact.

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With regard to claim 39, Lee et al. discloses the entire contact extends on two opposing vertical sides of the spacer.

With regard to claim 40, Lee et al. discloses the masking layer extends about the spacer.

With regard to claim 41, Lee et al. discloses the contact has a lower portion that contacts the whole upper side of the gate electrode.

With regard to claim 42, Lee et al. discloses the contact has an upper portion larger than a lower portion that contacts the gate electrode.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 34 and 38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

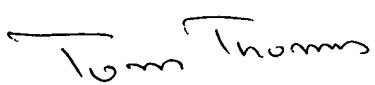
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (703) 308-4079. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

July 30, 2003


TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800